

**Abstract:**

The present invention deals with a process for treating a polyimide comprising exposing said polyimide to a compound selected from the group consisting of dendrimers, hyperbranched polymers and mixtures thereof. The polyimide may be in the form of a  
5 membrane and the membrane, after treatment according to the process of the invention, may be suitable for use in a membrane-based separation technique, for example gas separation, filtration, microfiltration, ultrafiltration, reverse osmosis or pervaporation. The membrane may for example be suitable for separation of gas and hydrocarbon mixtures including mixtures of  $H_2/N_2$ ,  $H_2/CO_2$ ,  $He/N_2$ ,  $CO_2/CH_4$ , and C2-C4 hydrocarbon  
10 mixtures.